

**Material Safety Data Sheet**

acc. to OSHA and ANSI

Printing date 07/08/2009

Reviewed on 07/07/2009

**1 Identification of substance:****Product details:****Product name:** Cobalt(II) iodide hydrate**Stock number:** A17904**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company  
 Johnson Matthey Catalog Company, Inc.  
 30 Bond Street  
 Ward Hill, MA 01835-8099  
 Emergency Phone: (978) 521-6300  
 CHEMTREC: (800) 424-9300  
 Web Site: www.alfa.com

**Information Department:** Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

**2 Composition/Data on components:****Chemical characterization:****Description: (CAS#)**

Cobalt(II) iodide hydrate (CAS# ?): 100%

**Identification number(s):****EINECS Number:** 239-283-2**Additional information:** CAS# for anhydrous compound: 15238-00-3**3 Hazards identification****Hazard description:**

Xn Harmful

**Information pertaining to particular dangers for man and environment**

R 43 May cause sensitization by skin contact.

R 68 Possible risk of irreversible effects.

**Classification system****HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	1
FIRE	0
REACTIVITY	1

Health (acute effects) = 1

Flammability = 0

Reactivity = 1

**GHS label elements****Warning**

3.5/2 - Suspected of causing genetic defects.

**Warning**

3.4/1 - May cause an allergic skin reaction.

**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see label).

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

**Storage:**

Store locked up.

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**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**4 First aid measures****After inhalation**

Supply fresh air and to be sure call for a doctor.  
Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek immediate medical advice.

**5 Fire fighting measures****Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

**Special hazards caused by the material, its products of combustion or resulting gases:**

In case of fire, the following can be released:

Metal oxide fume

Hydrogen iodide (HI)

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

**6 Accidental release measures****Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

**Measures for cleaning/collecting:**

Dispose contaminated material as waste according to item 13.

**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage****Handling****Information for safe handling:**

Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:** The product is not flammable

**Storage**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:**

Store in the dark.

Store away from water/moisture.

Store away from oxidizing agents.

**Further information about storage conditions:**

This product is hygroscopic.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from humidity and water.

Protect from exposure to light.

**8 Exposure controls and personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

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**Components with limit values that require monitoring at the workplace:**

Cobalt, elemental & inorganic compounds, as Co  
mg/m<sup>3</sup>

ACGIH TLV	0.02; Confirmed animal carcinogen
Austria	Carcinogen
Belgium TWA	0.05
Denmark TWA	0.05
Finland TWA	0.05 (skin)
Germany	Carcinogen
Hungary TWA	0.1; 0.2-STEL
Japan OEL	0.05; 2B Carcinogen
Korea TLV	0.02; Confirmed animal carcinogen
Ireland TWA	0.1
Netherlands MAC-TGG	0.05
Norway TWA	0.05
Poland TWA	0.05; 0.2-STEL
Russia	0.5-STEL
Sweden NGV	0.05
Switzerland MAK-W	0.1; Carcinogen
United Kingdom TWA	0.1
USA PEL	0.1 (dust and fume)

**Additional information:** No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

**Breathing equipment:** Use suitable respirator when high concentrations are present.**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

**Material of gloves**

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

<b>Form:</b>	Crystalline
<b>Color:</b>	Green
<b>Odor:</b>	Not determined

**Change in condition**

<b>Melting point/Melting range:</b>	99-101°C (210-214°F) (dec)
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined

<b>Flash point:</b>	Not applicable
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<b>Ignition temperature:</b>	Not determined
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<b>Decomposition temperature:</b>	Not determined
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<b>Danger of explosion:</b>	Product does not present an explosion hazard.
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**Explosion limits:**

<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined

<b>Vapor pressure:</b>	Not determined
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<b>Density:</b>	Not determined
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**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Materials to be avoided:**

Water/moisture

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Light  
 Oxidizing agents  
**Dangerous reactions** No dangerous reactions known  
**Dangerous products of decomposition:**  
 Metal oxide fume  
 Hydrogen iodide (HI)

**11 Toxicological information**

**Acute toxicity:**  
**Primary irritant effect:**  
**on the skin:** Irritant to skin and mucous membranes.  
**on the eye:** Irritating effect.  
**Sensitization:** Sensitization possible through skin contact.  
**Subacute to chronic toxicity:**  
 Prolonged exposure to iodides may cause skin rash, running nose, headache and irritation of the mucous membranes. In severe cases the skin may show pimples, boils, redness, black and blue spots, hives and blisters. Iodides are readily diffused across the placenta. Cobalt is an experimental neoplastigen and tumorigen. It is an experimental carcinogen of the connective tissue and lungs. Cobalt metal and inorganic compounds are classified as an animal carcinogen by the ACGIH. Ingestion may cause burning in the mouth, esophagus, and stomach. Inhalation of ducts and fumes may cause irritation of the respiratory tract and labored breathing and coughing. Sensitization, nausea, flushing of the face and ringing in the ears is also possible. Chronic ingestion may result in pericardial effusion, polycardial effusion, polycythemia, cardiac failure, vomiting, convulsions and thyroid enlargement.  
**Additional toxicological information:**  
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
 IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

**12 Ecological information:**

**General notes:**  
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
 Do not allow material to be released to the environment without proper governmental permits.

**13 Disposal considerations**

**Product:**  
**Recommendation** Consult state, local or national regulations to ensure proper disposal.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

Not a hazardous material for transportation.

<b>DOT regulations:</b>
<b>Hazard class:</b> None
<b>Land transport ADR/RID (cross-border)</b>
<b>ADR/RID class:</b> None
<b>Maritime transport IMDG:</b>
<b>IMDG Class:</b> None
<b>Air transport ICAO-TI and IATA-DGR:</b>
<b>ICAO/IATA Class:</b> None

**Transport/Additional information:** Not dangerous according to the above specifications.**15 Regulations**

**Product related hazard informations:**  
**Hazard symbols:**  
 Xn Harmful  
**Risk phrases:**  
 43 May cause sensitization by skin contact.

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68 Possible risk of irreversible effects.

**Safety phrases:**

36/37 Wear suitable protective clothing and gloves.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

**Information about limitation of use:**

For use only by technically qualified individuals.

This product contains cobalt and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.**Contact:** Zachariah Holt**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

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